CTPP 2000 Status Report

May 2003

U.S. Department of Transportation
Federal Highway Administration
Bureau of Transportation Statistics
Federal Transit Administration
In cooperation with the TRB Census Subcommittee

CTPP Part 1 delayed YET AGAIN

On April 18, 2003, the Census Bureau advised the CTPP Working Group that 10 tables in CTPP Part 1 could probably not be released. We have been told that it is a problem of potential disclosure of an individual who lives in group quarters. Jeremy Wu, Acting Chief Statistician, Bureau of Transportation Statistics, believes that CB can find ways to address the existing data quality and confidentiality issues, while sharing the common interest to meet the terms of the AASHTO contract.

AASHTO is in discussion with the Census Bureau, and we hope to have a resolution soon. However, we cannot even estimate when the CTPP Part 1 will now be released.

The logic that would eliminate these 10 tables would ALSO potentially eliminate two very critical tables in Part 3, these are:
3-2. Number of Vehicles in Household (4) by Means of Transportation to Work (8), and
3-7. Household Income (5) by Means of Transportation to Work (5).

It is not clear what logic the Census Bureau would apply to Part 2 and whether any of those Tables are also threatened.

County-County Worker Flow Data Released

The Census Bureau released county-county worker flows in the second week of March. To access the data, visit:
http://www.census.gov/population/www/cen2000/commuting.html

1. Instructions for Data Display
For an example on how to make flow maps using the data, visit:
http://www.fhwa.dot.gov/ctpp/flow.htm
Page 10 of this "status report" features an example map for King County, Washington.

2. CALIPER Mapping Application
CALIPER Corporation features a mapping application available at:
http://www.caliper.com/countytocounty/

3. Knight Ridder Mapping Website
Knight Ridder's ArcIMS application allows you to see an inbound commuter map or an outbound commuter map for almost every county in the US. The map can open centered on a county named by the ?fipco= part of the URL. The link below opens on Cook Co. IL.
http://161.188.204.80/maps/charlotte/jtw51.asp?fipco=17031

Important websites

CTPP Website: http://www.dot.gov/ctpp
TRB Sub-committee on census data: http://www.trbcensus.com
FHWA Website for Census issues: http://www.fhwa.dot.gov/planning/census
CTPP 2000 Profiles: http://www.transportation.org/ctpp
1990 CTPP downloadable via Transtats: http://transtats.bts.gov/

County to County Commute Flow in the Minneapolis-St Paul Region

Bob Paddock, Metropolitan Council of the Twin Cities
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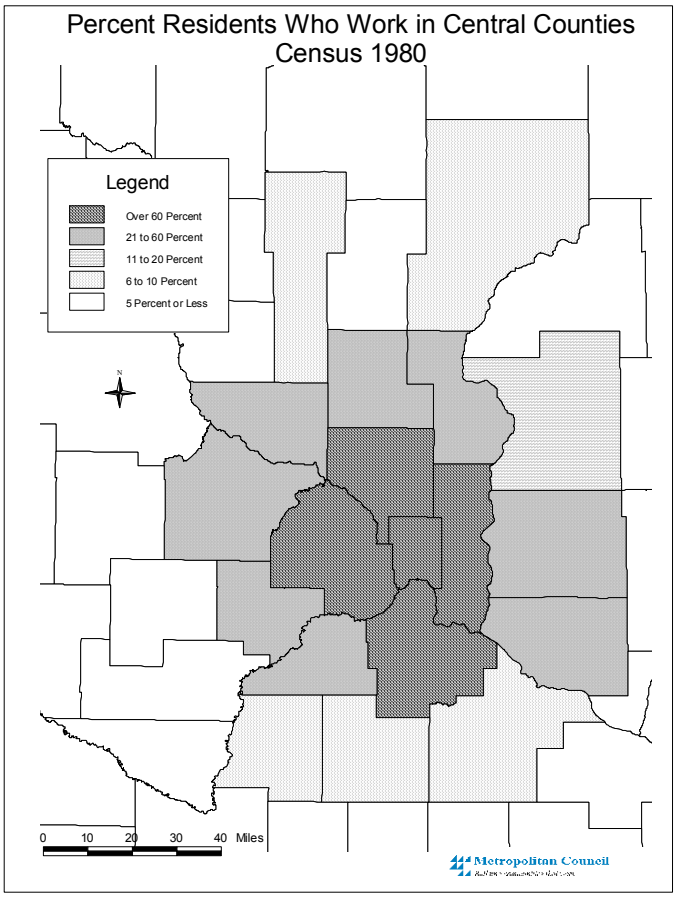
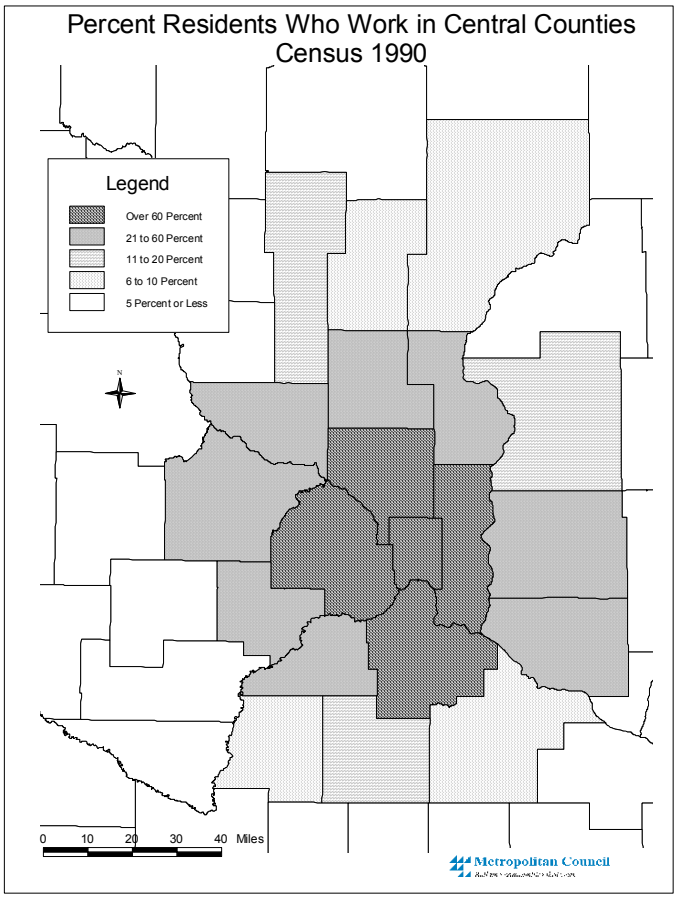
The population in the Twin Cities metropolitan area has increased from 2.1 million in 1980 to 3.0 million in 2000. This growth in population has been accompanied by an expanding travel shed into and out of the surrounding counties. This series of maps shows the percent of workers in each of these counties who are commuting to the "central counties" of Anoka, Dakota, Hennepin, Ramsey and Washington.

The areas with light dots are between 6 to 10 percent. The areas dotted by thick dots are 11 to 20 percent. When we examine the outer ring of counties between 1980 and 1990, two counties shifted from light dots to thick dots. Between 1990 and 2000, three additional counties shifted from light dots to thick dots, and four counties shifted from white to light dots.

One of the advantages of the Census Long Form data has been the ability to use it for trend analysis. There has been a consistency in the questions, and the methods used to obtain the data.

While the flow data at small geographic levels is not yet available, these county-level data let us begin to examine how our region is changing. From it we can begin to ask questions about the regional employment centers, residential choice models, as well as the plans for transportation infrastructure and services to reduce or prevent additional congestion. An emerging issue is the nature of planning and development in areas that are outside the present jurisdiction of the region's MPO.





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Census Data Subcommittee at TRB Annual Meeting

By Ed Limoges, Sabre Systems, Inc./US Census Bureau

The Subcommittee on Census Data, A1D08(1), met on January 15 at the 2003 Annual Meeting of the Transportation Research Board. Over thirty persons attended, representing Federal and State agencies, MPOs, consulting firms, and academia. The meeting was chaired by Elaine Murakami, FHWA, because Chair Bob Sicko was home recovering from surgery.

Poster Sessions

The session held this year was discussed. This included a ceremonial handoff of the CTPP from Census Bureau Director Kincannon to Jack Basso, AASHTO. Discussion of potential poster sessions for the 2004 Annual Meeting followed. Possible formats included various combinations of individual speakers followed by an inclusive poster session. CTPP, PUMS, and ACS would be emphasized. Ed Christopher suggested putting out a call on the listserve and in the *CTPP Status Report*. Elaine asked attendees to keep the subcommittee informed of people doing interesting things with the data.

TRB Joint Summer Committee Meetings

These will be held in Portland, OR July 13-18, 2003, with the Urban Data Committee scheduled for Thursday afternoon, July 17.

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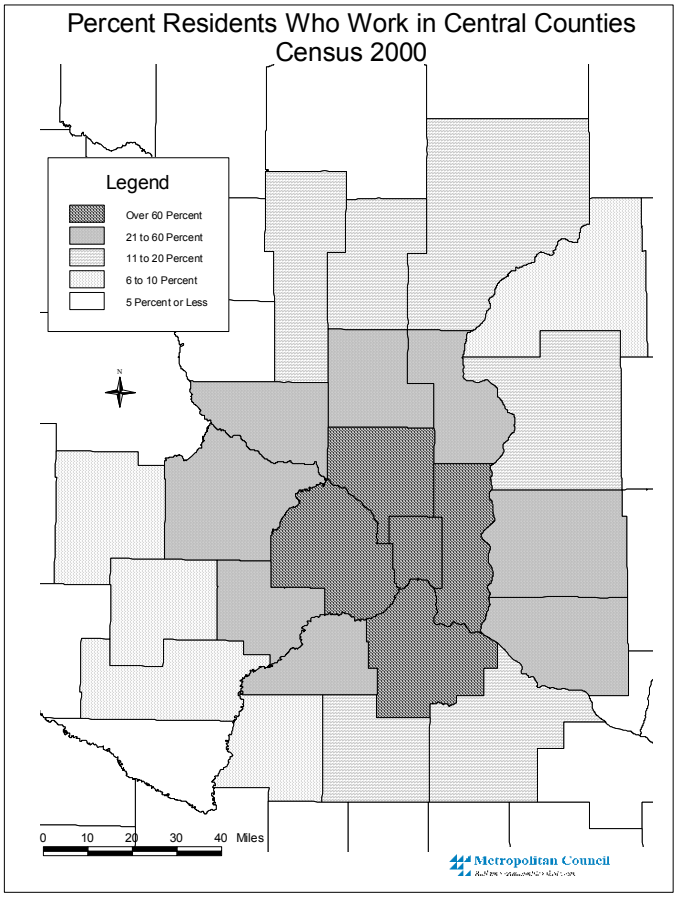
County to County Commute Flow in the Minneapolis-St Paul Region *(..continued from page 2)*



CTPP 2000 Related Activity at Upcoming Conferences/Meetings: (May-July 2003)

CTPP Working Group Staff regularly attend major conferences/events. The following is a list of conferences/meetings where CTPP staff are scheduled to make presentations for the months of May-July 2003:

1. Transportation Research Board 7th Statewide Planning Conference, May 18-20, 2003, Duck Key, Florida

2. Texas MPO Conference, May 27-30, 2003, Irving, Texas

3. TRB Mid-year Meeting, July 13-18, 2003, Portland, Oregon
The Urban Data Meeting (A1D08) is scheduled on July 17, 2003.

A discussion on some Census terms

Nanda Srinivasan, Cambridge Systematics Inc.

While working with Census data, it is important to know what is being tabulated, and how the tables were derived from the "long form." The most commonly used term is the "Universe." Universe means "Counting Units." (eg: All persons, persons in households, Workers, households etc.) This discussion focuses on two subjects: Vehicles, and Employment.

Vehicles Available vs. Vehicles Used in Commute

There are two variables describing vehicles in the Census data. They result from either question 23 or 43 on the "long form." The variable "Vehicles Available" is computed from question 43, the household data, while the variable "Vehicles Used for commute" is computed from question 23, the means of transportation to work for workers. Most of the tables provided by the Census regarding vehicles (especially those in the CTPP 2000) present a count of vehicles available in households.

23 a. How did this person usually get to work LAST WEEK? *If this person usually used more than one method of transportation during the trip, mark the box of the one used for most of the distance.*

Car, truck, or van	Taxicab
Bus or trolley bus	MotorcycleStreetcar or trolley car
Bicycle	Subway or elevated
Walked	Railroad
Worked at home *Skip to 27*	Ferryboat
Other method	

If "Car, truck, or van" is marked in 23a, go to 23b. Otherwise, skip to 24a.

23 b. How many people, including this person, usually rode to work in the car, truck, or van LAST WEEK?

Drove alone	2 people
3 people	4 people
5 or 6 people	7 or more people

43. How many automobiles, vans, and trucks of one-ton capacity or less are kept at home for use by members of your household?

None
1
2
3
4
5
6 or more

Some of the tables provided by the Census show computed characteristics based on mode to work. An example of such a table is: Table 1-110 Aggregate number of **vehicles used** [1] by Time leaving home to go to work [4]. Other tables include 1-111, 2-110, 2-111, 3-10, and 3-11. For these tables, the number of vehicles used is computed from question 23(a) and 23(b).

Table 1 shows the vehicles available, and vehicles used for King County in Washington state. Table 2 shows the CTPP calculation for "vehicles used in commute" based on vehicle occupancy for workers.

Table 1: Aggregate number of vehicles available

	King County, Washington
Aggregate number of vehicles available:	1,218,680
Aggregate number of vehicles used for commute:	676,802

Table 2: Calculation of "vehicles used in commute" from vehicle occupancy for workers

	King County, Washington	**Vehicles used in commute**
Total workers	911,677	
Drove alone	626,576	=626,576 x 1
In 2-person carpool	88,752	=88,752 x 0.5
In 3-person carpool	12,496	=12,496 x (1/3)
In 4-person carpool	4,044	=4,044 x (1/4)
In 5- or 6-person carpool	2,070	=2,070 x (1/5)
In 7-or-more-person carpool	2,211	=2,211 x (1/7)
Aggregate vehicles used for commute		676,858

Reconciling number of jobs, employed persons, and workers at work

In examining decennial-census based counts of workers, it is important to understand definitional differences between workers and employed population and the differences between total employment (jobs) and workers-at-work. Chuck Purvis of the Metropolitan Transportation Commission, says that a general rule-of-thumb should be that total employment should be 7 to 9 percent higher than the Census 2000 count of workers- at- work. Two percent of the difference can be attributed to weekly absenteeism (see Item 2a), and six percent of the difference can be attributed to workers with multiple jobs (see Item 2c). These are general estimates based on national figures, and your area may be different.

1. Employed persons versus Workers-at-work

"Workers", as used in Journey-to-work and CTPP refers to all persons 16 years or older who were AT WORK during the reference week (INCLUDING people in the Armed Forces).

“Employed” is defined as all persons 16 years or older who were:

a. At work (excluding those in the Armed Forces).
b. With a job but not at work for the whole week (due to illness, personal businees, vacation etc.)

The Census Bureau considers the terms “employed” and “civilian employed” as exactly the same. People who volunteered to work (without pay), and people who worked for the armed forces are excluded from “employed.”

Table 3 shows all persons 16 years of age and older, workers, total workers, total population in the labor force (both employed and unemployed), civilian employed population, and people working in the armed forces for the nation from the decennial Census.

Table 3: Workers vs Civilian Employed population

Category	United States
Total Population: 16 years or older	217,168,077
Total population in the labor force	138,820,935
Total Workers	128,279,228
Civilian Employed	129,721,512
Armed Forces	1,152,137
Civilian Employed + Armed Forces	130,873,649

2. Reconciling Total Employment (jobs) and Workers-at-work

The decennial census based data for workers are derived from the long form question, "At what location did this person work LAST WEEK?"

If the person worked at more than one location they are instructed to print where they worked most last week. Thus, these data are tagged to a particular reference week. People are not being asked their usual workplace location. Also, the Census asks for ONLY ONE job. People with multiple jobs can write about only the primary job on the Census form. Also, because the census does not ask for the origin of the work trip, the daily commute is assumed to start from home in coding journey-to-work flows.

There are three main adjustments that are needed to make Total employment (JOBS) data comparable to census workers-at-work data:

a. Weekly absenteeism adjustments

The Census reports only workers (full-time or part-time) who worked any time during the week prior to the survey. An adjustment must be made to reflect workers who may not work every day or who may not go to work on an occasional day due to illness, vacation, personal business or other reasons. The FHWA publication “Transportation Planner’s Handbook on Conversion Factors for the Use of Census Data” notes that studies by local agencies suggest that the typical WEEKDAY absenteeism factor is in the range of 15-20 percent.

One way to calculate absenteeism for your area is to compare the values for "Civilian Employed" + "Armed Forces" with "Total Workers."

Absenteeism factor = [(Civilian Employed + Armed Forces) – Total Workers]*100]/Total Workers

Using the values from Table 1, the national average for WEEKLY absenteeism is about 2 percent. This procedure can be used to calculate weekly absenteeism factors for all geographies (eg: state, county, place, tract, or block group).

b. Seasonal fluctuations in employment adjustments

Both the labor force, and employment opportunities fluctuate with different seasons. The decennial census does not measure any "typical" week in the year – the reference week may be anytime between March-April 2000.

c. Multiple jobholding adjustments

In May 2001, 7.8 million persons worked at multiple jobs in the United States, a figure representing 5.7 percent of all workers (US DOL, Bureau of Labor Statistics Publication "Labor month in review" November 2002, Vol. 125, No.11). The percent of workers holding multiple jobs varies based on geographic location, cost of living etc.

Example: Adjustments in the San Francisco Bay Area

In the San Francisco Bay area, Metropolitan Transportation Commission's (MTC) independent estimate of total employment, year 2000, is 3,753,700 total jobs; Census 2000 data on workers-at-work is 3,396,800. MTC's estimate of total employment, unadjusted, is 10.5 percent higher than census-based workers-at-work. This is more than what was expected (7-9 percent), possibly due to higher levels of moonlighting, seasonality or other data issues.

Adjustments made to the total employment (jobs):

a. Weekly absenteeism adjustments = 2% (adjustment to workers)
b. Seasonal fluctuations factor = 0.983 (adjustment to total jobs)
c. Multiple job holding adjustments = 5.6% (adjustment to workers)

Total adjustments = (1/1.056) * 0.983 *(1/ 1.02) = 0.913
Adjusted employment = 0.913 * 3,753,700 = 3,425,700

AFTER ADJUSTMENTS, the difference between MTC's total employment (adjusted) and census-based workers-at-work is 0.9 percent.

Acknowledgement: Various e-mails to the CTPP listserve served as a valuable reference in compiling this article. We thank Chuck Purvis (MTC), and everyone else who contributed to the discussion on the listserve.

Census Data Subcommittee at TRB Annual Meeting *(….Continued from page 3)*

TRB Census Data Conference, 2005

Two such conferences were held after the 1990 Census. These are described on the Subcommittee's website, and paper copies of the reports are available. The 2005 conference has been approved but not yet funded.

Commuting to Downtowns

Chuck Purvis said he would like the large MPOs to work together to report trend data for commuting to downtowns from 1980, 1990, and 2000.

CTPP 2000 Products

Phil Salopek, U.S. Census Bureau (CB), described the product release sequence for Census 2000 commuting data. Profile sheets by county became available in October 2002. **(www.transportation.org/ctpp)** County-to-county flow data, by place of residence and place of work, were released in early March. The current schedule calls for Part 1 (place of residence) data to be released beginning late April/early May and continuing over the following six to eight weeks. Some States will be bundled onto a single CD, while other States may exceed one CD. Software tools developed by two firms, Beyond 2020 and Digital Engineering Corp., will allow users to access CTPP data, for purposes of browsing, displaying, mapping, and exporting the data, at a variety of geographic levels. The release of Part 2 (place of work) and Part 3 (flows) will begin late summer/early fall.

Workplace Allocation

Ed Limoges, Sabre Systems, described the project to develop and test a workplace allocation procedure to be used for those workers who could not be geocoded to a place of work tract and block. This procedure, to be used in creating the CTPP workplace data, is an extension of the Census 2000 standard allocation procedure. Both methods use mode, duration, and industrial class to link workers needing allocation to tract/block geocoded workers, but the extended method uses many more classes of each, and in addition users occupational class. Elaine commented that testing of the new procedure has been done using Census 2000 data for Michigan and Ohio. Several MPOs will review preliminary output for their areas.

Other CTPP Items

Ed. C. gave out copies of the CTPP 2000 brochure that describes the use of Census 2000 data to support transportation planning. Pheny Smith, BTS, and Nanda Srinivasan, FHWA, described the 1990 CTPP via Transtats database, including its use and geographic structure.

American Community Survey

Al Tupek, U.S. Census Bureau, discussed the ACS. CB has said that there is no plan for a 2010 long form. ACS requires a collection period of 60 months to report small-area data. In 2000, the C2SS was expanded to 1,200 counties. Evaluations for operational feasibility and data quality have been done. The results are available on the website and in paper copy. A series of three reports are being worked on, covering the 100 percent questions (due spring 2003), and the sample questions on population and housing (due summer 2003). The goal is to continuously improve the ACS. A discussion of response rates followed. Regarding post-2000 change, Bob LaMacchia (CB), stated that the Master Address File (MAF) is updated twice a year. The MAF-TIGER Accuracy Improvement Project will reposition TIGER to five-meter accuracy. Also, a pilot effort will explore the feasibility of assigning coordinates to 2000 addresses in non-city-style address areas. Emily Parkany, Villanova University, reported on her project on seasonality in the ACS. She distributed a one-page handout, said the study was a work in progress, and requested e-mail comments. The challenges posed by cutting a 15 percent sample into 12 monthly pieces were discussed.

"Analyzing and Presenting Census Data": Call for Poster Session Materials

Bob Sicko, TRB Subcommittee on Census Data for Transportation Planning [A1D08(1])

The Subcommittee on Census Data for Transportation Planning (A1D08-1) is interested in developing a poster session for the 83rd TRB Annual Meeting in January 2004. The subject of the poster session will center on the innovative and creative ways that census related data is being analyzed, presented and displayed.

Under the TRB guidelines, a poster session is a series of presentations on vertical display boards with direct interaction between the presenter and attendees. The entire presentation is placed on a display board and should be considered the equivalent to the conventional paper or presentation sessions.

Typically, a TRB Poster Session is made up of reviewed papers. Similar to the 82nd Annual Meeting, and because of the evolving nature of the subject and the fact that key US Census related data will be released through the summer--time is short--presentations will be considered.

Individuals interested in sharing some of the innovative and creative ways in which they are displaying and making the latest Census data available within their transportation community are encouraged to "show their work". Those seeking publication as part of the TRB Research Record series need to have their paper submitted, according to TRB guidelines no later than August 1, 2003. For more information on the paper submittal process or the Annual meeting refer to; http://www4.trb.org/trb/annual.nsf Those wishing to present their materials without seeking full publication may submit an abstract by August 1, 2003 to Bob Sicko, Chair of the Subcommittee on Census Data for Transportation Planning (See page 10 for contact information).

More detailed information and general instructions for a TRB Poster Session can be found at http://www.nas.edu/trb/archives/publications/am/poster.pdf

Should you have any questions please contact Bob Sicko, Subcommittee Chair, or Ed Christopher, Chair of the Urban Data and Information Systems Committee (A1D08) (See page10 for contact information).

Bob Sicko, Chair, TRB Subcommittee on Census Data for Transportation Planning [A1D08(1)]

Visualizing County-County Worker Flow data using Flow Maps

The maps on page 10 illustrate number of workers commuting into King County (Seattle MSA, Washington) for 1990 and 2000. A procedure to make similar maps for your area is posted in the FHWA website at: http://www.fhwa.dot.gov/ctpp/flow.htm

Analysis Using County-County Worker Flow data

The April 2003 issue of "Puget Sound Trends" provides an analysis of 1980, 1990, and 2000 worker flows. The report can be accessed at: http://www.psrc.org/datapubs/pubs/trends/t1apr03.pdf

A working paper by Siim Sööt, Joseph DiJohn (University of Illinois at Chicago) and Ed Christopher (FHWA) entitled "Chicago-Area Commuting Patterns Emerging Trends" is posted at: http://www.berwyned.com/papers/co2cochgo.pdf

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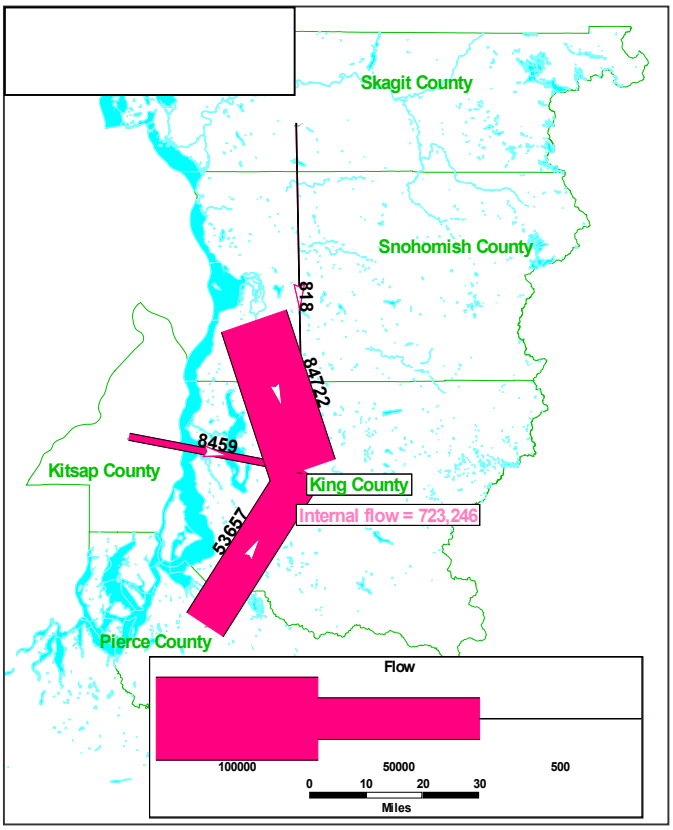

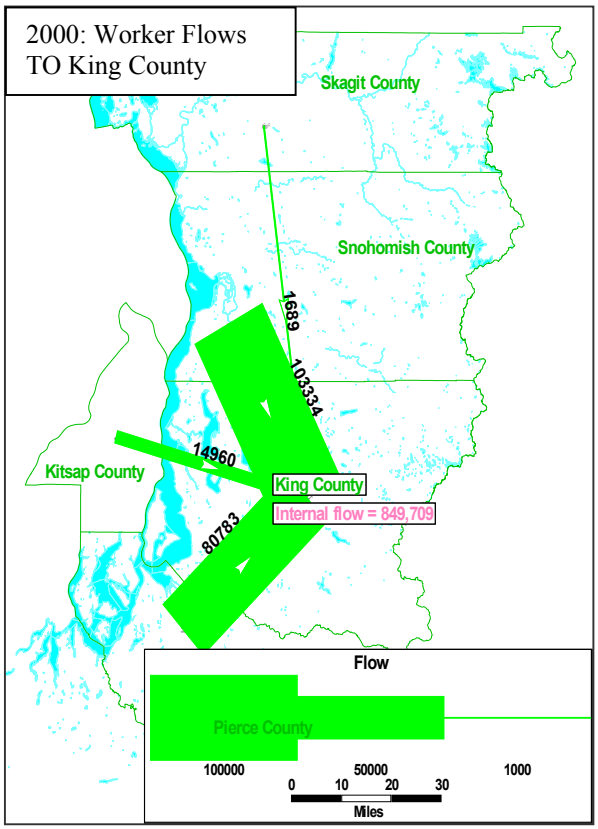

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